AN ARCHAEOLOGICAL SURVEY OF THE SHORES OF THE GRAND MANAN ARCHIPELAGO

by

David W. Black

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ABSTRACT

An archaeological survey of the shores of the Grand Manan Archipelago was conducted during June of 1983. Surveying activities were concentrated on the eastern shores of Grand Manan Island and on the smaller islands adjacent to those shores. The survey represents part of an ongoing program of archaeological resource management conducted by the Archaeology Branch of the New Brunswick Department of Historical and Cultural Resources in co-operation with the Council of Maritime Premiers' Maritime Committee on Archaeological Co-operation.

Eleven archaeological sites were recorded during the survey. Of these, nine are 19th and 20th century historic sites, represented by surface scatters of ceramic and glass sherds, and by architectural features. Two sites are prehistoric shell middens, probably corresponding to sites described more than a century ago by S.F. Baird (1881).

These shell middens are located in a topographic context different from those in which shell middens have generally been discovered in the adjacent Passamaquoddy Bay and West Isles areas of the southern New Brunswick coast. It is recommended that these prehistoric sites be considered significant archaeological resources, and that they be further investigated in the immediate future.

ACKNOWLEDGEMENTS

The fieldwork portion of the 1983 Grand Manan Survey was carried out under the auspices of the Archaeology Branch of the New Brunswick Department of Historical and Cultural Resources. The analysis of the artifacts recovered, and the preparation of this report, were funded by a grant from the Council of Maritime Premiers. I wish to thank Dr. Chris Turnbull for arranging the logistics and funding of both aspects of the project.

The success of the fieldwork portion of the project was in large part due to the hospitality of the people of Grand Manan, the co-operation of my survey partner, Linda Jefferson, and the assistance of Albert Ferguson (Historical and Cultural Resources).

Nancy Reid (Historical and Cultural Resources) and Marc Lavoie (Department of Anthropology, McMaster University) provided valuable assistance in identifying and describing the historic artifacts. Judith Stewart drew some of the figures.

Finally, I must thank Dr. W. C. Noble and Dr. Peter Ramsden of the Anthropology Department, McMaster University, who kindly allowed me to use part of the department's archaeology lab space while I prepared this report.

AIMS OF THE PROJECT

The 1983 Grand Manan Archaeological Survey represents part of a long term commitment by the Archaeology Branch of the New Brunswick Department of Historical and Cultural Resources to record, assess, and protect the archaeological resources of the southern shores of New Brunswick (see, for example, Davis and Christianson 1979; Ferguson and Turnbull 1980; Davis 1982). Specifically, the aims of the project reported here were to relocate previously reported archaeological sites on Grand Manan, to locate and record other historic and prehistoric archaeological sites on the shores of Grand Manan, to make a preliminary assessment of the importance of these archaeological resources, and to assess the threat posed to these resources by coastal erosion. The results of the survey are presented below, following a brief description of Grand Manan, and a summary of previous archaeological research conducted on the islands.

A BRIEF DESCRIPTION OF GRAND MANAN

GEOLOGY AND PHYSICAL GEOGRAPHY:

The Grand Manan Archipelago is composed of some 20 islands and numerous associated intertidal ledges, located at the month of the Bay of Fundy. Grand Manan Island is by far the largest of the islands. The archipelago is an isolated height of rock rising 300 meters above the lowland which forms the sea floor around it. All of the islands are within the 25 meter bathymetric contour (Legget 1981:25).

Grand Manan Island is bisected by a major fault oriented roughly northeast-southwest between Red Point and Whale Cove (see fig. 1) which separates the two main ages of bedrocks

which form the islands. To the west of the fault about 80% of Grand Manan Island is formed of columnar diabase and layered basalt volcanics and minor amounts of conglomerate and sandstone (all Mesozoic in age). The eastern portion of Grand Manan Island and the smaller islands are formed of a variety of volcanic, sedementary, and metamorphic rocks of Paleozoic age (Gesner 1981; GSC 1948). Many aspects of the physical geography, biogeography, and modern settlement patterns of Grand Manan are strongly influenced by this basic geological dichotomy.

Several minerals occur on Grand Manan which would have been of interest to prehistoric visitors to, or residents of, the islands. These include chert/agate sources in the Eel Brook area, a native copper source at Whale Cove, and a "pipestone" source also on the northeastern shore of the island (Gesner 1981).

Exposures of glacial till and extensive deposits of glacial outwash and glacio-marine sediments exist in the archipelago, especially in the areas east of the fault. Glacial striations and possibly stratified till deposits suggest at least two episodes of glaciation. Late Pleistocene organic subfossils have been observed and dated on the eastern shores (Legget 1981). The soils observed on Grand Manan are mainly thin brown podzols except in low lying areas where deep bog soils have accumulated.

A number of major and minor brooks and streams drain the interior of Grand Manan Island. The largest of these, Grand Brook and Seal Cove Brook, flow through north-south oriented valleys in the central part of the island, and drain to the eastern shore. Dark Harbour Brook is the only significant

drainage emptying to the western shore. Fresh water and brackish ponds are common along the shores of the island, and freshwater ponds and marshes occur in the interior. Streams are insignificant on the smaller islands, although fresh and brackish ponds are common on their shores as well.

Where basalt and diabase outcrop, the shorelines of Grand Manan are cliffs ranging from a few meters to 150 meters in height. The western shore has only one significant break in the line of cliffs, at Dark Harbour. Intertidal zones at the bases of the cliffs are steep rocky ledges or course boulder shingles.

The eastern shores of Grand Manan Island, and those of the smaller islands are generally low gradient sand or gravel beaches. The Grand Manan area is subject to the same trend of submergence which affects other shores in the Maritimes (Legget 1981), and shoreline erosion has been particularily severe where shoreline gradients are low and glacial deposits are present (see figs. 9 and 10). For example, as recently as a century ago Sam's Ledge and Bill's Ledge (see fig. 1) were islands large enough to warrant the harvesting of hay from them (Allaby 1983: p.c.).

In spite of this general trend toward shoreline degradation, significant localized aggradation is taking place on some of the eastern shores. Typically, fresh or salt ponds form behind the extensive sand and gravel beaches deposited at the average high water line. The large fresh water ponds at Anchorage Provincial park are excellent examples of this phenomenon.

This localized aggradation may result in buried land surfaces--an example of a buried soil horizon was observed during the survey reported here (Black 1983b). This pheonomeon suggests the possibility that buried archaeological sites may exist on some Grand Manan shores.

Most erosion and destruction of shorelines probably takes place during storms. There is evidence on Ross Island of occasions when innundation has taken place 30-40 meters inland from the average high water line (Black 1983b).

BIOGEOGRAPHY:

Most of the area underlain by diabase and basalt is covered by stands of coniferous trees. Exceptions occur in low lying areas where marsh vegetation is present, and along streams where deciduous trees are more common. Much of the forest is secondary growth due to the impact of logging, and a major fire which burned much of the area in the late 19th century (Allaby 1983).

Vegetation on the eastern part of Grand Manan Island and on the offshore islands is much more affected by clearing, agricultural activities, and construction. Higher, drier, areas support stands of conifers, and disturbed areas support stands of mixed forest and brush. Fresh and salt marsh vegetation are present.

Terrestrial animals must have been uncommon on Grand Manan during the prehistoric period because the archipelago has been isolated from the mainland since the last glaciation. Allaby (1983) records the introduction of deer and rabbits in the mid-19th century. On the other hand, avian wildlife is diverse and abundant, especially during seasons when migratory birds visit the islands. Marine animals and plants were probably as abundant in the past as they are now. Fishing continues to be the main occupation of Grand Manan's inhabitants (Legget 1981).

HISTORY AND SOCIAL GEOGRAPHY:

Grand Manan was apparently sighted and visited by Europeans as early as the end of the 16th century, but permanent Euro-American settlement of the archipelago did not take place until 1784 when Loyalists settled the Ross Island, Cheney Island, and Grand Harbour areas. Within a few years settlements were established in favourable areas on the southeastern shores of the main island and on the southern off-shore islands. The northern settlements were more gradually established during the middle of the 19th century (Allaby 1983).

Modern settlements on Grand Manan continue to be concentrated on the eastern shores, for topographic and climatic reasons. There is evidence, in the form of recently abandoned buildings and farms, for a population movement away from the small islands in the past 2 or 3 generations. Of the smaller islands, only Whitehead Island, which is connected to Grand Manan Island by a ferry service, continues to support a substantial community at the present time.

PREVIOUS ARCHAEOLOGICAL RESEARCH

Grand Manan was visited briefly in the summer of 1869 by S. F. Baird, an associate of the United States National Museum in Washington, who examined "aboriginal shell mounds" in several areas of southern New Brunswick, Maine, and New England. Baird (1881) published a brief account of his discoveries; it is worth quoting in their entirety, his comments on Grand Manan shell middens:

> No. 4. -- Grand Menan, New Brunswick; Grand Harbour.-- Grand Menan is situated about 20 miles from Eastport. This was found to contain many deposits of small shell heaps; no beds, however, were very extensive. Those at Newton's Point and Ingall's Head, in Grand Harbour were found to be the most productive localities.

> The shells were much broken and mixed with dirt. Where the bed reached the water it was about 40 feet wide and 10 inches thick. The only mammals observed were seals, some beaver, many bones of birds, and a few of fishes were obtained. Stone articles were abundant; many arrows, flint flakes, etc. A few worked bones of beaver were secured.
>
> No. 5. -- Grand Menan; Nantucket Island. -- This is the residence of Simeon L. Cheney, the well known naturalist of Grand Menan, whose assistance to many American naturalists has been so often gratefully acknowledged.
>
> No. 6. -- Grand Menan; Cheney Island, near Whitehead Island. -- The shells in the last two localities occur on the south side of the island in detached heaps or hummocks, containing each from half a bushel to three or four bushels, not connected by any layers. They are usually high up in the field and covered with thick sod. These heaps show very few bones, and seldom any stone implements. They appear to have been casual in their origin, and do not mark long continued settlements.
>
> Cormorant bones were found quite abundantly in the Nantucket Island heaps. There appeared to be an unusual scarcity of bones of fishes in the Grand Menan deposits, and those chiefly of small fishes, sculpins, and the like. (Baird 1881: 294-95)

All of the specimens collected by Baird were donated to the U. S. National Museum (1881: 292). Baird provided no descriptions of the lithic artifacts he found in the sites, and made no mention of finding ceramic artifacts.

However, Baird's description of the faunal remains identified in the sites suggests a similarity between these sites and those excavated by Sanger (see Sanger 1971; Stewart 1974; McCormick 1980) on the shores of Passamaquoddy Bay, in which seal, beaver, deer, and bird bones were common, and fish

bones rare. In the Passamaquoddy Bay sites as well, the few fish bones identified were generally those of sculpins.

These shell middens can be contrasted to those in the West Isles area (for example, BgDr 48 (Bishop 1983; Black 1983a), and BgDr 38 (Black 1983b), on the Bliss Islands (BgDq4 and BgDq 6 (Black 1983b)), and on the Maine coast (Sanger 1982: 202), in which fish bones are more common and cod remains are often identifiable.

It is probably significant that deer bones are not mentioned by Baird -- deer bones are usually present in coastal middens in New Brunswick -- a confirmation of Allaby's (1983) indication that deer were introduced to Grand Manan during the historic period (in 1845).

Sanger apparently conducted some site surveying on Grand Manan during his Passamaquoddy Bay research (Turnbull 1983: p.c.). No report of his survey is available.

Allaby has conducted mainly underwater archaeological research involving historic shipwrecks in the waters around Grand Manan (Allaby 1971).

Indian Camp Point, on Ross Island, and Seal Cove, on Grand Manan Island, are the only places reported to the present writer as associated with aboriginal occupation of the islands by the present residents. The Grand Manan Museum, located in Grand Harbour, has a single aboriginal artifact on display -- this is a relatively large, contracting stemmed projectile point made of a dark green chert material. This artifact is reported to have been found at Indian Camp Point. Typologically, it may fit into Davis' (1978: 19) Group I projectile points, and/or Bishop's (1983: 139) 2500-2000 BP Early Woodland time period.

SURVEY METHODOLOGY

The survey was conducted from June 10 to July 2, 1983, by the author and one assistant. Twelve days were actually spent surveying in the field, an additional 2 days were spent completing notes, cleaning artifacts, and processing matrix samples. The remaining days were weekends, or days spent travelling between Fredericton and Grand Manan. Casual archaeological surveying was occasionally included in recreational activities on weekends.

Due to time and logistical constraints, it was necessary to assess the shorelines prior to surveying, in order to designate which areas would be surveyed, and which would not. Three criteria were used in making this assessment: 1) the probability that significant archaeological resources would occur on a particular shore (based on experience in the Passamaquoddy Bay and West Isles areas); 2) the probability that archaeological resources in a particular area would be impacted by construction or erosion; 3) the ease with which a particular area could be surveyed using the available means.

As a result of this assessment the western shore of Grand Manan Island (excepting Dark Harbour), and the Northern and Southern Heads, were designated as low priority areas. The eastern shores of Grand Manan Island and the shores of the off-shore islands were designated high priority areas.

Three methods were used in surveying. First, all public roads on Grand Manan and Whitehead Islands were travelled at least once by truck; exposures such as roadcuts and gravel quarries were examined as time permitted. Second, some of the off-shore islands are accessable only by boat; not all of these could be

visited because a boat was only available for one of the survey weeks. Cheney, Nantucket, and Wood Islands were partially surveyed by boat. Finally, as much surveying as possible was conducted on foot. In all, about 75% of the eastern shores of Grand Manan and about 10% of the western shores were examined. Those areas surveyed and the methods used for each are shown in fig. 2.

Sites were recorded on Maritime Archaeological Resource Inventory site survey forms. Each site was photographed, mapped (and/or profiled) as it was recorded. No test excavations were carried out on any of the sites. Artifacts were collected when they were observed on site surfaces. Small matrix samples (circa 1000 cc) were taken from the prehistoric sites.

All sites recorded were assigned site numbers according to the Borden system, and are referred to using these numbers throughout this report. Site locations, and the numbers assigned, are shown in fig. 3.

SITE DESCRIPTIONS

INTRODUCTION:

Eleven archaeological sites were recorded during the survey, nine of them historic sites, and two of them prehistoric. In the following sections each of the sites is briefly described, and, where applicable, artifacts and faunal remains collected at the site are discussed. Prehistoric and historic sites are evaluated separately following the descriptions.

HISTORIC SITES:

BdDq 1 consists of a scatter of historic ceramic and brick fragments eroding from a thin brown podzol soil onto an

exposure of glacial outwash above a low diabase cliff (see fig. 4). The site is located a few meters east of the mouth of Trout Brook on the shore between Seal Cove and Red Point. North of the shore is a cleared area surrounded by a stand of conifers; no features were observed in the clearing.

The ceramic artifacts collected include 2 sherds of plain white refined earthenware, 2 sherds of a shell-edged pearlware plate, and a single sherd of another pearlware vessel decorated with a blue painted design. All of these ceramics are 19th century, the latter sherd dating prior to 1835.

BdDq 2 includes two historic house basements located on Ox Head between Ingall's Head and Anchorage Provincial Park. The area is a cleared expanse of outwash and low bedrock outcrops covered by weeds, grasses, and clumps of brambles. The basements are slightly infilled, but do not appear to be very old. They may represent houses marked on the marine chart of the area, but not on the more recent topographic map. An abandoned but partially standing house is located nearby.

Only one artifact was collected at this site, a single sherd of dark green bottle glass. Bubbles in the glass indicate that it was manufactured in a cold mold, and thus dates earlier than 1910 (Lavoie 1983: p.c.). However, it is difficult to determine whether this single artifact accurately reflects the age of the site.

BeDq 1 is located at the northeast end of Flagg Cove Beach in the community of North Head. It consists of a scatter of historic ceramic and glass sherds eroding from a thin topsoil deposit onto an exposed stratified outwash deposit and the beach at the base of this exposure (fig. 5). The area above the beach has been cleared and parts of it are maintained as lawns.

Artifacts were collected as two assemblages, those from the exposure, and those from the beach. The former assemblage contains fragments of the following ceramic and glass vessels: an ironstone chamber pot decorated with a blue transfer-printed design (19th century); a white refined earthenware platter decorated with a scalloped rim and a raised floral motif on the upper surface (late 19th century); a shallow white refined earthenware bowl; an oriental porcelain plate decorated with a multi-colored floral print (turn of the century); and a glass inkwell (19th century, prior to 1890). In addition, 2 pieces of calcined bone, portions of a lumbar vertebra of a medium sized mammal, were found among the sherds.

BeDq 1 probably represents a domestic site dating to the latter half of the 19th century. The ceramics from Flagg Cove Beach represent a mixed assemblage of earthenware, stoneware, and porcelain vessels dating to the 19th and 20th centuries.

BeDq 2 is located immediately to the east of several small fishing camps on the beach enclosing Upper Pond (figs. 6 and 7). The site consists of a dense concentration of ceramic and glass sherds in a thin soil layer over the course beach gravel.

Portions of the following vessels were collected: an American stoneware storage vessel having a salt-glazed upper exterior surface, and an Albany slip on the lower exterior and interior surfaces; a small European stoneware storage vessel, lead glazed on both the exterior and interior surfaces; an ironstone bowl; a Rockingham-type tea pot; a pop-bottle which had been fitted with a Hutchinson stopper; and, a large black glass liquor bottle. All of these artifacts date to the 19th

century, and several, the ironstone, the stoneware, the pop-bottle, and the liquor bottle, later than 1850.

BeDq 3 is located at the south end of Flagg Cove Beach, just south of the mouth of Dock Brook. It consists of a scatter of ceramic sherds eroding from a thin topsoil deposit onto an exposure of outwash and till. Above the exposure is a small cleared area surrounded by a stand of conifers. No features were observed in the area.

Portions of the following creamic vessels were collected: a blue transfer-printed white refined earthenware plate (19th century); a shell-edged pearlware plate decorated in a deep blue color (1815-1820); a group III shell-edged white refined earthenware plate (1820-1840); a large white refined earthenware bowl (19th century, after 1830); a New England red earthenware storage vessel having a brown glaze on both the exterior and interior surfaces (19th century); and, a large Maritime ware storage vessel (19th century, after 1820). These artifacts suggest a domestic site dating to the earlier half of the 19th century (circa 1815-1860).

BeDq 4 is exposed in the bank at the head of a low gradient beach north of Castilia Provincial Park in the community of Castilia. The site consists of a small lens of fragmented soft-shelled clams (Mya arenaria) about 20 cm in length and a maximum of 4 cm in depth. One northern whelk shell (Buccinum undatum) found on the erosional surface may be associated with the clam shells. Historic ceramic and glass sherds are present in the soil adjacent to the shell lens.

The subsoil at the site is a stoney outwash deposit; the topsoil above it is about 20 cm in depth, and appears to have been burned or to be strongly leached. The area above the site

has been cleared and is overgrown by tall grass and weeds. It has been disturbed by the construction of the nearby highway, and modern debris has been dumped in the area.

Artifacts recoved from BeDq 4 include burned fragments of window glass, a sherd of white refined earthenware, and the handle of a transfer-printed white refined earthenware cup (1850-1920).

There is no evidence that the shell lens relates to an aboriginal occupation. Most probably it results from historic shellfish exploitation -- this interpretation is reinforced by the presence of a single shellfish species. Bedq 4 is in many respects similar to BgDr 49 on Partridge Island in the West Isles, which has also been interpreted as an historic shell deposit (Black 1983a:81, 164-65).

BeDq 5 is located on the northwestern portion of Ross Island, on the headland between Chalk Cove and the Thoroughfare. The site consists of a single historic house basement, and an associated scatter of bricks and metal garbage. All the artifacts observed appeared quite modern; no ceramics were observed. The site may represent a house marked on the marine chart but not on the topographic map.

BeDq 6 is located on a large cleared knoll above Chalk Cove on Ross Island, several meters west of the trail which transects the island. It consists of two foundations, one probably representing an historic house, and the other probably an associated barn. The area around the site has been farmed in the recent past. No artifacts were observed on the surface of this site and no age estimate can be made.

BeDq 7 is located on a low knoll between two drainages southeast of Chalk Cove on Ross Island. The site consists of an historic basement, probably of a barn or a large house, and an associated well filled with rocks.

No artifacts were observed at the site; the basement is only slightly infilled, suggesting a recent date for the site.

Additional ceramic and glass artifacts were collected on Gull Cove Beach on Whitehead Island, and on Grand Harbour Beach betwen the mouths of Grand Brook and Bradbury Brook.

At Gull Cove, the base of a thick black glass liquor bottle, and a sherd of a white refined earthenware plate decorated with a blue transfer-printed willow pattern design, were found. These artifacts indicate an historic occupation of Gull Cove during the latter half of the 19th century.

At Grand Harbur, two ceramic sherds were found; one, a portion of a stoneware storage vessel with an Albany slip on both the exterior and interior surfaces; the other, a portion of an American earthenware storage vessel with a lead glazed exterior surface and a brown interior slip. A portion of the base of a black glass case bottle was also found. These artifacts are 19th century in age.

SUMMARY OF HISTORIC SITES

The historic artifacts and features observed during the survey represent 19th and 20th century occupations of Grand Manan. BdDq 1 and BeDq 3 are early 19th century sites; BeDq 1, BeDq 2, and BeDq 4 are later 19th century sites. BdDq 2, BeDq 5, Bedq 6, and BeDq 7 probably date to the 20th century. The earlier sites are being eroded: the later ones are located away from the shore. It seems unlikely that any of the sites located on Ross Island relate to the original Loyalist occupation of the area.

PREHISTORIC SITES:

BdDq 3 is located on a low cleared knoll at the southern end of Cheney Island between Salt Pond and Fresh Pond Point (fig. 8). It consists of a small exposure of marine shell (50 cm X 50 cm) about 15 meters north of a small red cabin (figs. 13 and 14). The site is located more than 50 meters from the present shore, and has a southwestern exposure.

No artifacts were observed at the site. However, some faunal remains were identified in the matrix sample collected. The invertebrates include soft-shelled clams (Mya arenaria), horse mussels (Modiolus modiolus), northern whelks (Buccinum undatum), limpets (Acmaea testudinalis), and sea urchins (Strongylocentrotus droebachiensis). The only vertebrate remains observed are five small fragments of fish bone, one of which is probably the proximal end of a brachiostegal ray, representing a medium size fish.

The location of BdDq 4 is essentially the same as that of BdDq 3 except that the former consists of two exposures of marine shell about 30 meters southeast of the red cabin (fig. 8). Exposure A is about 50 cm X 50 cm (fig. 15) and Exposure B is about 20 cm X 20 cm (fig. 16).

Again, no artifacts were observed. Faunal remains from Exposure A include fragments of soft-shelled clams, horse mussels, and sea urchins, and 17 fragments of fish bone. Three fish elements are identifiable, a brachiostegal ray, an epiplural rib, and a pterygiophore, representing a medium size fish. At Exposure B only marine shell fragments (soft-shelled

clams, horse mussels, sea urchins) were present in the matrix sample. One piece of charcoal was observed at Exposure B.

At both BdDq 3 and BdDq 4 the shell layers are thin (10-15 cm in depth) and are mixed with considerable amounts of black soil. At both sites the surfaces of the shell are covered by thick mats of sod and roots. The subsoil is a thin deposit of gravel and weathered bedrock. The sites do not appear to have been disturbed by agricultural activity. The cause of the small exposures is uncertain -- they may be due to pedestrian traffic on the trails linking the cabins (fig. 8). The extent of the sites cannot be determined until further subsurface exploration is conducted.

SUMMARY OF PREHISTORIC SITES

BdDq 3 and BdDq 4 are almost certainly the sites which Baird observed on the south end of Cheney Island in 1869. They fit his descriptions almost perfectly. The present author agrees with Baird that these shell heaps are aboriginal sites, in spite of the lack of artifacts to substantiate this claim, the relative scarcity of vertebrate faunal remains, and the odd location of the sites.

It should be noted that the exposures of the sites may result from Baird's test excavations. This would account for the absence of artifacts and larger faunal remains at the exposures. Even given the minimal amount of material analysed it is obvious that the sites are not homogenous. Whelks and limpets are present at BdDq 3, but not at BdDq 4; fish bones are not present at Exposure B of BdDq 4, but are present at the other two exposures. It is interesting to note that the only faunal remains found are fish bones, although Baird stated that fish bones were rare in Grand Manan middens. It is possible that further exploration will reveal that BdDq 3 and BdDq 4 should be considered a single site.

It should be emphasized that the location of the sites is aberrant with respect to most shell middens observed in the Passamaquoddy Bay and West Isles areas. The orientation of the sites to the shore is southwest rather than southeast, and the shells are almost 50 meters inland from the high water line, rather than located at the high water line. The difference in orientation may be due to differences in prevailing wind patterns between Grand Manan and the Passamaquoddy Bay area. The reason that the shells were transported so far from the shore is more difficult to explain. It should be pointed out that the location is, in some respects, similar to that of BgDr 38 on Deer Island (Davis 1982), and so, is not completely unique.

Following the discovery of these sites an attempt was made to locate the aboriginal sites observed by Baird on Nantucket Island, and on Ingall's Head. No shell middens were found at either of these locations. Coastal erosion has probably destroyed the sites during the century since Baird observed them. It seems probable that the sites on Cheney Island have been preserved only by their anomalous location.

CONCLUSIONS

1) The survey indicates that preserved prehistoric coastal sites are rare on the shores of Grand Manan.

2) There is some indication that the scarcity of prehistoric remains may be due to minimal prehistoric activity on the islands.

3) There is convincing evidence that such prehistoric archaeological resources as once did exist on Grand Manan have been largely destroyed by coastal erosion. Erosion has been most severe on the shores which are presently most densely populated, and which would have been most attractive to prehistoric inhabitants.

4) There are significant numbers of historic archaeological sites, dating to the 19th and 20th centuries, being eroded on the eastern shores of Grand Manan.

RECOMMENDATIONS

1) The prehistoric sites on Cheney Island should be considered significant archaeological resources, and a high priority should be given to the excavation of these sites. Testing should be oriented toward: i) obtaining samples of artifacts and faunal remains from the sites, ii) dating the sites, either by radiocarbon analysis of marine shells, or by obtaining sufficient charcoal for radiocarbon analysis, and iii) explaining the anomalous location of the sites.

2) It is recommended that one of the prehistoric sites on Cheney Island be officially named the Baird Site in recognition of S. F. Baird's early contribution to the archaeology of New Brunswick.

3) Testing and surveying of the interior of Grand Manan for prehistoric archaeological sites would be expensive and time consuming, especially considering the probability of a very low success rate. Should such testing or surveying be undertaken, it is recommended that the mouths and lower reaches of the larger drainages, and the edges of the nearshore marshes and ponds be considered the highest priority areas.

4) It is recommended that further surveying for historic sites on Grand Manan be conducted in the Grand Harbour, Ross Island, and Whitehead Island areas, in an attempt to find sites relating to the earliest Loyalist occupations on Grand Manan.

FIGURE 1: Map of Grand Manan showing the physiography, drainages, and place names referred to in the text.

1) Northern Head
2) Eel Brook
3) Upper Pond
4) Whale Cove
5) North Head
6) Flagg Cove
7) Dock Brook
8) Dark Harbour
9) Castilia
10) Castilia Provincial Park
11) Long Island
12) Dark Harbour Brook
13) Grand Brook
14) Seal Cove Brook
15) Woodward's Cove
16) Nantucket Island
17) Great Duck Island
18) Bradbury Brook
19) Grand Harbour
20) The Throughfare
21) Ross Island
22) Indian Camp Point
23) Chalk Cove
24) Sam's Ledge
25) Cheney Island
26) Bill's Ledge
27) White Head Island
28) Gull Cove
29) Ingall's Head
30) Ox Head
31) Anchorage Provincial Park
32) Red Point
33) Trout Brook
34) Seal Cove
35) Deep Cove Brook
36) Deep Cove
37) Wood Island
38) Outer Wood Island
39) Southern Head
40) Kent Island

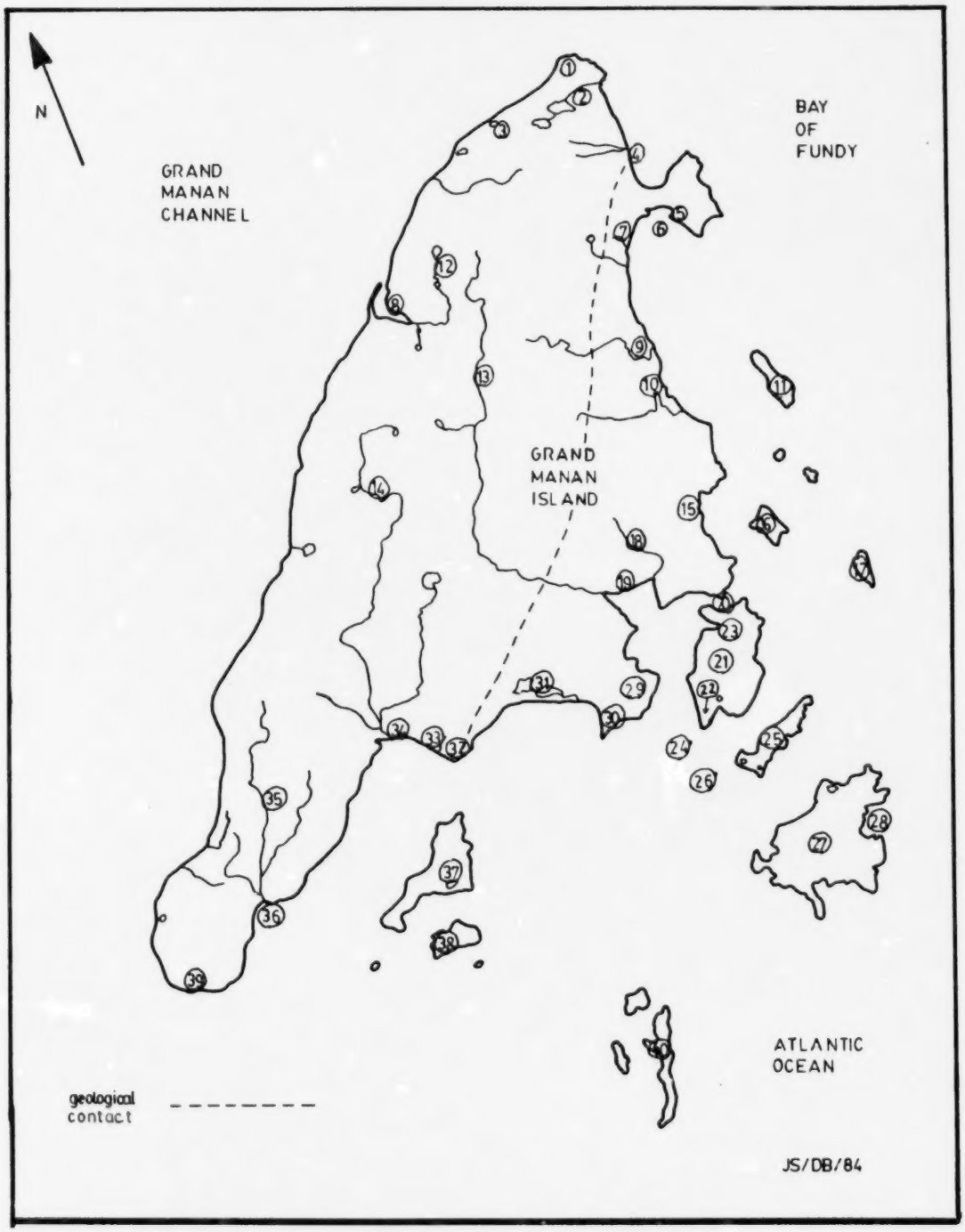

N
GRAND
MANAN
CHANNEL
BAY
OF
FUNDY
GRAND
MANAN
ISLAND
ATLANTIC
OCEAN
geological
contact
JS/DB/84

FIGURE 2: Map of Grand Manan showing the areas examined during the 1983 archaeological survey.

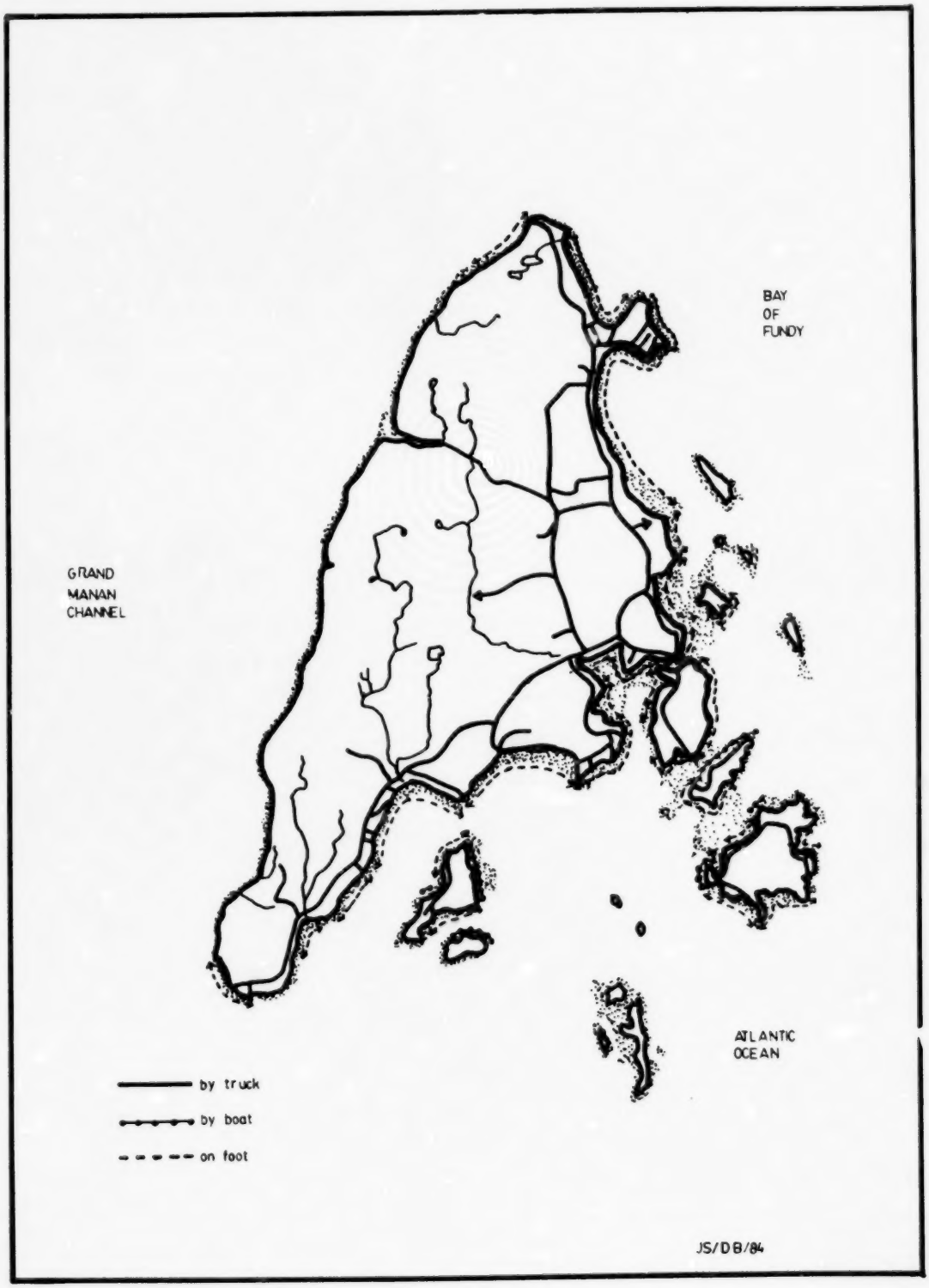
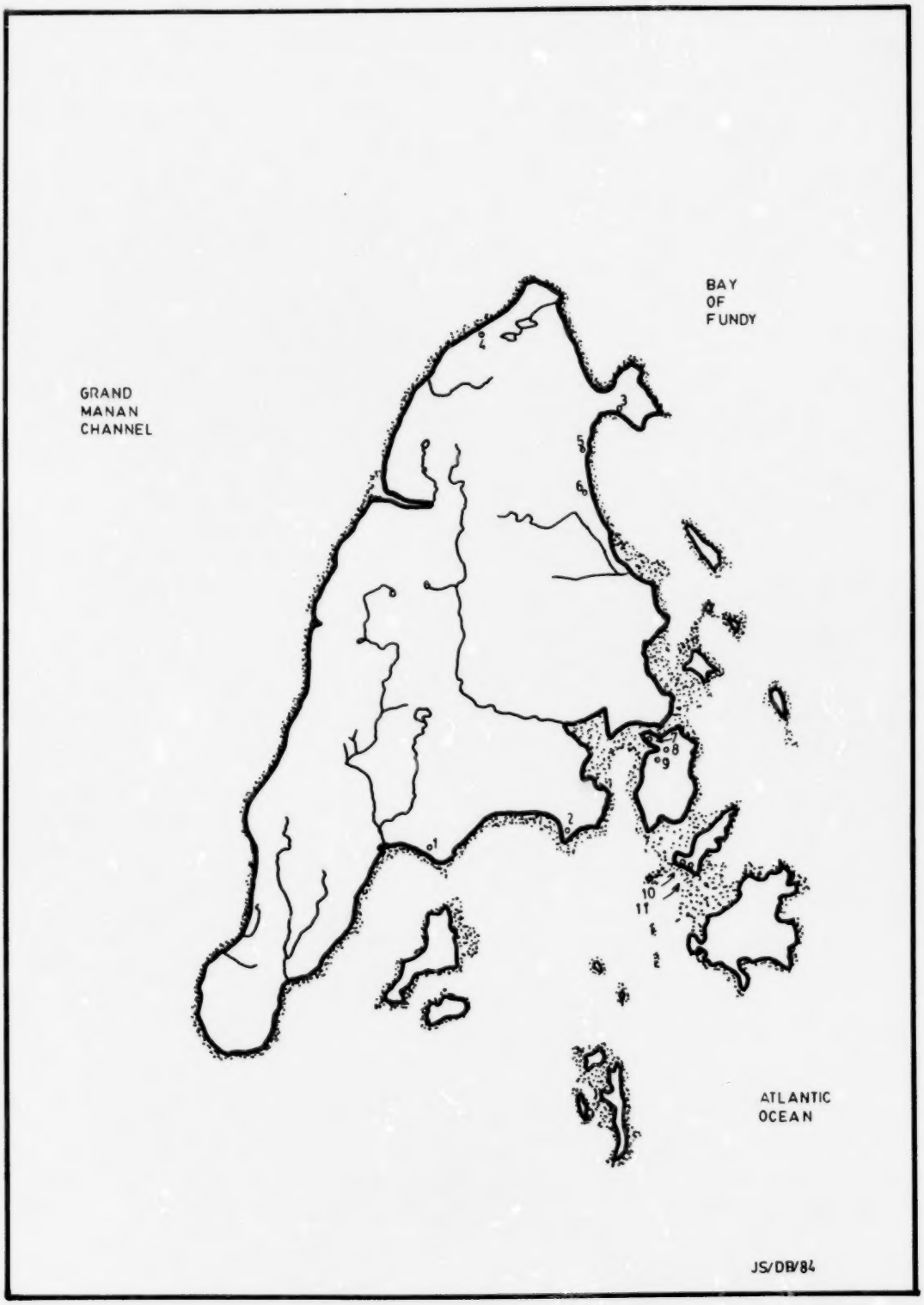

BAY
OF
FUNDY
GRAND
MANAN
CHANNEL
ATLANTIC
OCEAN
by truck
by boat
on foot
JS/DB/84

FIGURE 3: Map of Grand Manan showing the locations of the archaeological sites recorded during the 1983 survey.

1) BdDq 1
2) BdDq 2
3) BeDq 1
4) BeDq 2
5) BeDq 3
6) BeDq 4
7) BeDq 5
8) BeDq 6
9) BeDq 7
10) BdDq 3
11) BdDq 4


BAY
OF
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GRAND
MANAN
CHANNEL
ATLANTIC
OCEAN
JS/DB/84

FIGURE 4: BdDq 1: crossection of the shoreline at the site.

FIGURE 5: BeDq 1: crossection of the shoreline at the site.

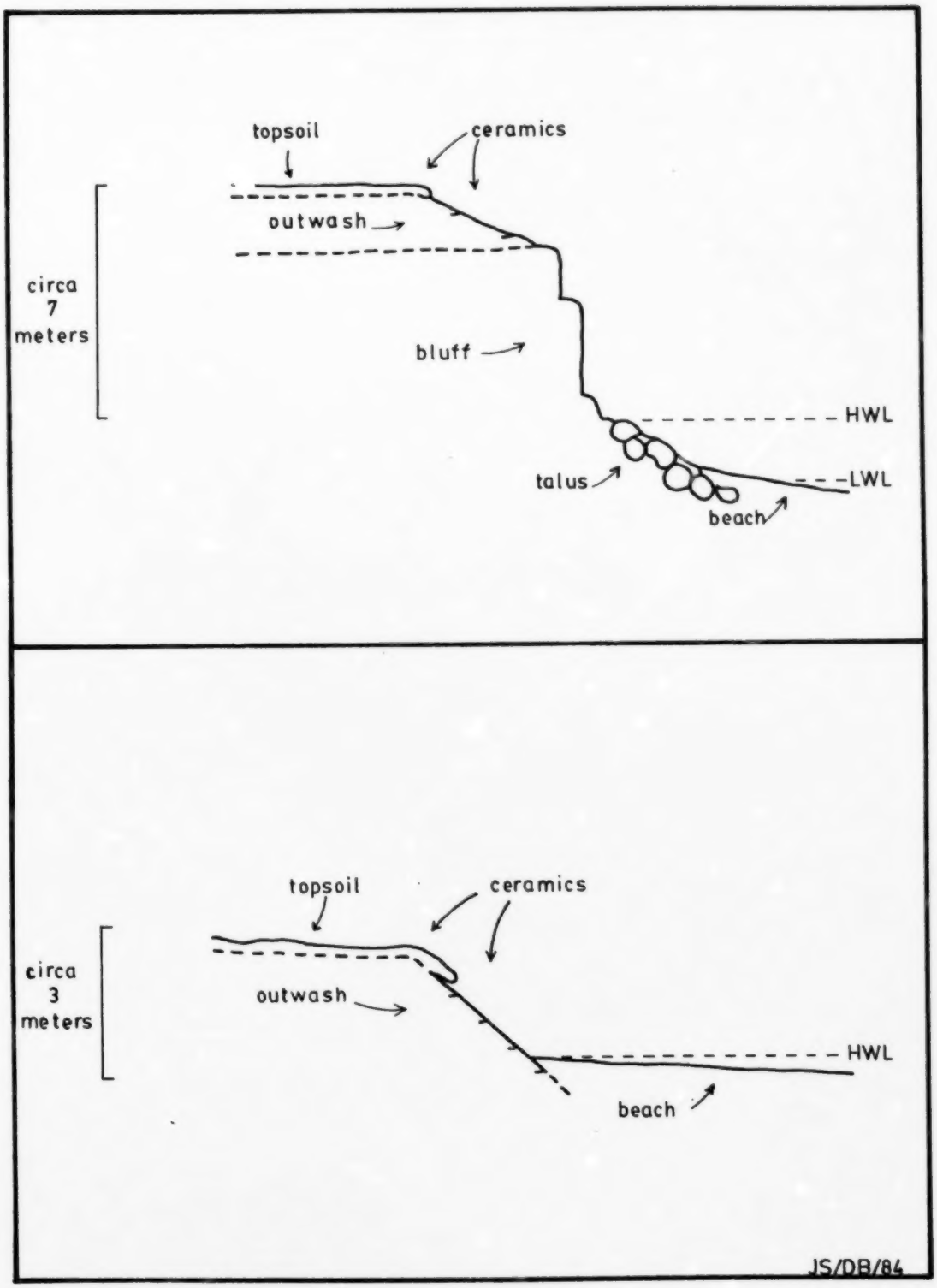

topsoil
ceramics
outwash
circa
7
meters
bluff
HWL
talus
LWL
beach
topsoil
ceramics
circa
3
meters
outwash
HWL
beach
JS/DB/84

FIGURE 6: BeDq 2: plan of the shoreline at the site.

FIGURE 7: BeDq 2: crossection of the shoreline at the site.

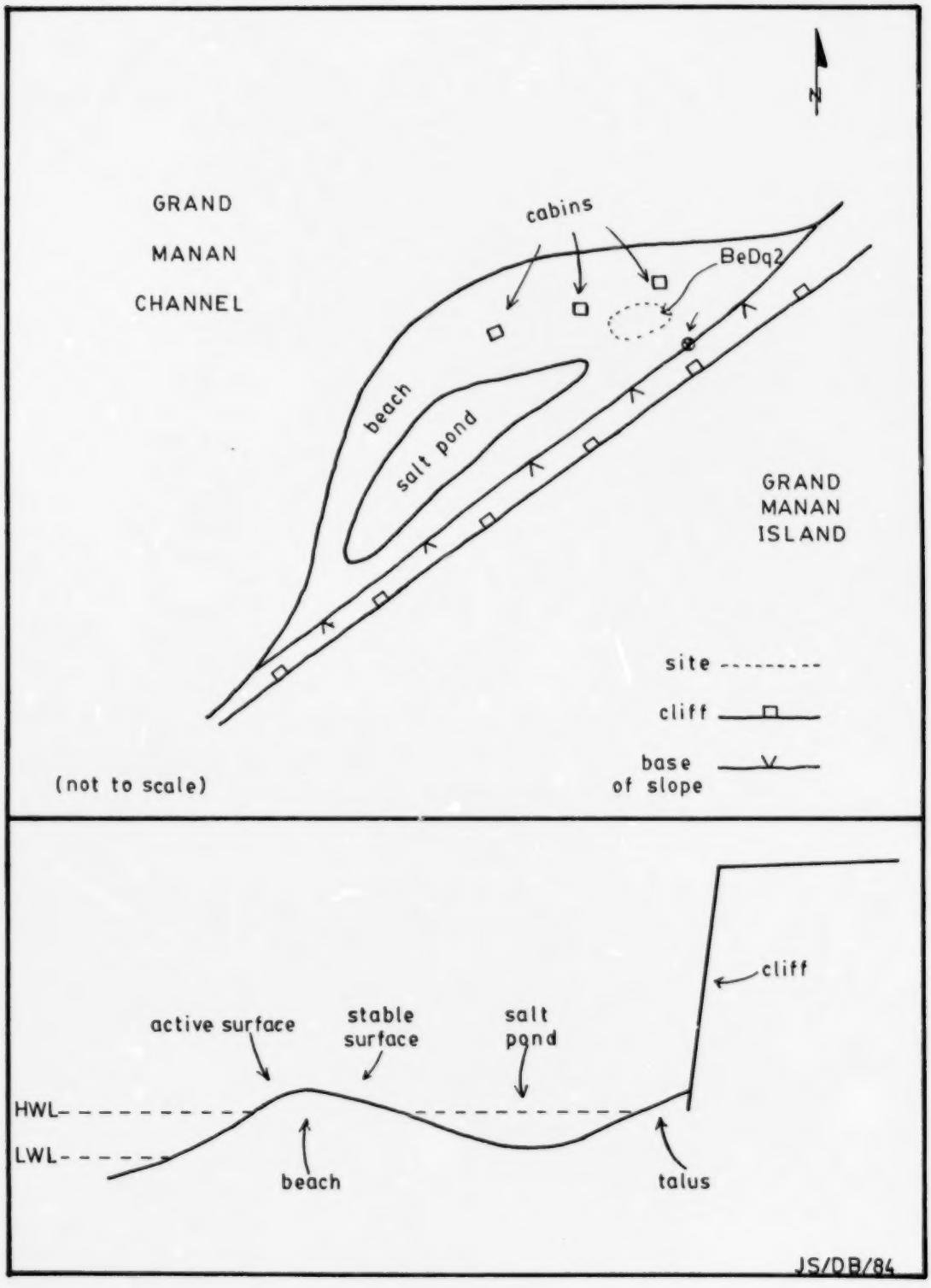

N
GRAND
MANAN
CHANNEL
cabins
BeDq2
beach
salt pond
GRAND
MANAN
ISLAND
site
cliff
base
of slope
(not to scale)
cliff
active surface
stable
surface
salt
pond
HWL
LWL
beach
talus
JS/DB/84

FIGURE 8: BdDq 3 and BdDq 4: a plan showing the locations of the prehistoric sites on Cheney Island.

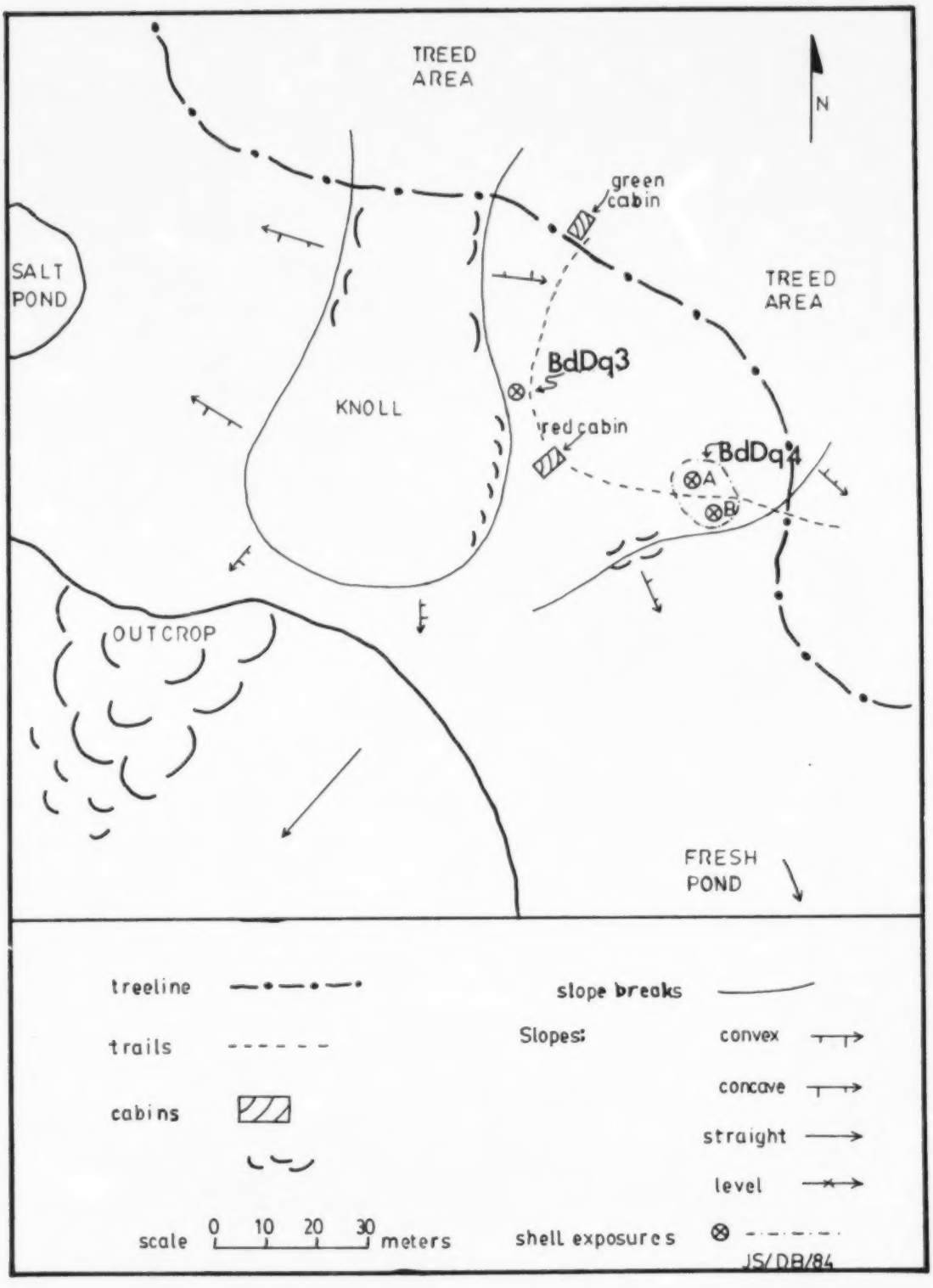

TREED AREA
N
green cabin
SALT POND
TREED AREA
BdDq3
KNOLL
red cabin
BdDq4
A
B
OUTCROP
FRESH POND
treeline
trails
cabins
slope breaks
Slopes:
convex
concave
straight
level
scale 0 10 20 30 meters
shell exposures
JS/DB/84

FIGURE 9: Erosion of a forested shoreline on Ross Island.

FIGURE 10: Erosion of the marsh in Chalk Cove, on Ross Island.

FIGURE 11: Upper Pond, looking toward BeDq 2.

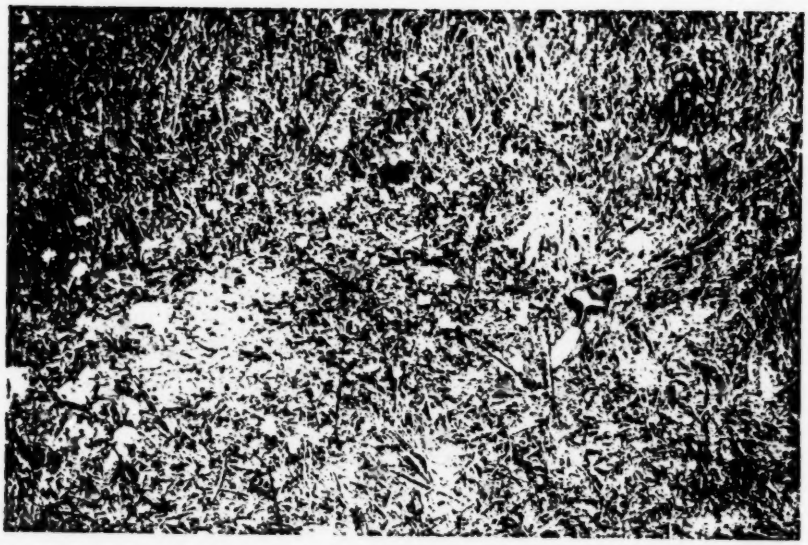
FIGURE 12: The beach enclosing Upper Pond.

FIGURE 13: Exposure of marine shell at BdDq 3.

FIGURE 14: The surface of BdDq 3, looking west toward the shore.

FIGURE 15: Exposure (A) of marine shell at BdDq 4.

FIGURE 16: The surface of BdDq 4, looking toward the red cabin.



REFERENCES CITED

Allaby, E.
1971 Some Vessels Wrecked Around Grand Manan Island (Map). Grand Harbour, N.B.: Grand Manan Museum.

1983 An Historical Map of Grand Manan Island (Map). Grand Harbour, N.B.: Grand Manan Museum.

Baird, S. F.
1881 Notes on Certain Aboriginal Shell Mounds on the Coast of New Brunswick and New England. Proceedings of the U.S. National Museum, 4:292-297.

Bishop, J. C.
1983 The Partridge Island Site: Early and Middle Woodland-Related Assemblages from New Brunswick. Unpublished M.A. thesis, Department of Anthropology, McMaster University.

Black, D. W.
1983a What Images Return: A Study of the Stratigraphy and Seasonality of a Small Shell Midden in the West Isles of New Brunswick. Unpublished M.A. thesis, Department of Anthropology, McMaster University.

1983b Grand Manan Archaeological Survey Fieldnotes. Ms. on file, Archaeology Branch, Historical and Cultural Resources Administration. Fredericton, N.B.

Davis, S. A.
1978 Teachers Cove. New Brunswick Archaeology Series 1, #1.

1982 Coastal Erosion and Archaeological Sites in Charlotte County, New Brunswick -- 1980 Survey. In C. J. Turnbull (ed.), Archaeological Resources in the Maritimes. Council of the Maritime Premiers. Reports in Archaeology. #5:1-24.

Davis, S. A., and D. J. Christianson
1979 Archaeological Resources in the Maritimes, A Coastal Survey. Council of Maritime Premiers, Reports in Archaeology, #4.

Ferguson, A., and C. J. Turnbull
1980 Minister's Island Seawall: An Experiment in Archaeological Site Preservation. Saint Mary's University, Department of Anthropology, Occasional Papers, #8. Halifax, N.S.: Saint Mary's University.

Geological Survey of Canada
1948 The Geology of Grand Manan Island (GSC Map 965A). Ottawa: Geological Survey of Canada.

Gesner, A.
1981 First Report on the Geology of Grand Manan. The Grand Manan Historian 23: 8-21. (original 1936).

Legget, R. F.
1981 Glacial Geology of Grand Manan Island. The Grand Manan Historian 23:22-45.

McCormick, J. S.
1980 Criteria in Archaeological Faunal Analysis: Four Passamaquoddy Bay Cases. Unpublished M.Sc. thesis, Quaternary Studies Institute, University of Maine at Orono.

Sanger, D.
1971 Passamquoddy Bay Prehistory, A Summary. Maine Archaeological Society Bulletin 2(2):14-19.

Stewart, F.
1974 Faunal Remains from the Carson Site (BgDr 5). Archaeological Survey of Canada, Ms. #31012. Ottawa.